

Abstract of the Disclosure

A ceramic honeycomb structure includes a plurality of through-holes surrounded by partition walls, wherein a thermal expansion coefficient of an outer circumferential wall portion in the ceramic honeycomb structure is larger than a thermal expansion coefficient in a direction of a diameter of an inside partition wall portion in the ceramic honeycomb structure, and stress is applied to the inside partition wall portion from the outer circumferential wall portion. An outer circumferential wall portion of the ceramic honeycomb structure is reinforced, and the ceramic honeycomb structure does not hinder a flow of gas in a circumferential partition wall portion of the ceramic honeycomb structure, and thermal shock resistance of the ceramic honeycomb structure is enhanced profitably.